Honeywell Docket No. 30-5081 DIV - 4580
Bingham Docket No.: 7270015001-3227000

IN THE CLAIMS

1-23:   Canceled.

Claim 24:   (Currently Amended) A crimp measuring system, comprising:

        a computer, wherein the computer comprises a processor and an associated stored program and wherein the program is stored in a computer readable medium and wherein the computer and the associated stored program decomposes an acquired video image of a moving crimped tow into two non-interlaced images;

        a plurality of progressive scanning video cameras, wherein the cameras are used to acquire the video image of the moving crimped tow;

        a switch board that accepts data signals from at least one of the video cameras;

        an I/O interface; and

        at least one peripheral device.

Claim 25:   (Previously Presented) The crimp measuring system of claim 24, further comprising an analog video monitor connected to at least one of the progressive scanning video cameras.

Claim 26:   (Previously Presented) The crimp measuring system of claim 24, wherein at least one of the progressive scanning video cameras outputs a digital data signal to the switch board.

Claim 27:   (Previously Presented) The crimp measuring system of claim 24, wherein the system further comprises a frame grabber.

Claim 28:   (Previously Presented) The crimp measuring system of claim 27, wherein at least one of the progressive scanning video cameras outputs a video data signal to the switch board.

3

Honeywell Docket No. 30-5081 DIV - 4580
Bingham Docket No.: 7270015001-3227000

Claim 29:   (Previously Presented) The crimp measuring system of claim 28, wherein the video data signal is digitized by the frame grabber after the video signal reaches the switch board.

Claim 30:   (Previously Presented) The crimp measuring system of claim 24, wherein the at least one peripheral device comprises a crimper controller, a tow tension sensor, a light intensity regulator, external data storage, an audio/video alarm device or a combination thereof.

Claim 31:   (Previously Presented) The crimp measuring system of claim 24, wherein the processor and stored program processes the data signals by identifying crimp peaks for crimps having a value exceeding a preset threshold and calculating crimp frequencies between neighboring crimp peaks.

Claim 32:   (Previously Presented) The crimp measuring system of claim 24, wherein the I/O interface comprises at least one data acquisition board.

Claim 33:   (Previously Presented) The crimp measuring system of claim 32, wherein the at least one data acquisition board comprises sufficient analog and digital channels for I/O communications between the computer and the at least one peripheral device.

Claim 34:   (Previously Presented) The crimp measuring system of claim 24, further comprising a light source positioned proximate to the plurality of progressive scanning video cameras.

Claim 35:   (Previously Presented) The crimp measuring system of claim 34, wherein the light source illuminates a plurality of fibers in a moving crimped tow.

Claim 36:   (Previously Presented) The crimp measuring system of claim 34, wherein the stored program operates the light source.

Claim 37:   (Previously Presented) The crimp measuring system of claim 24, further comprising a start-up mode for processing start-up portions of a crimped tow and for signaling a normal condition upon the start-up portions satisfying a predefined criteria.

Claim 38:   (Previously Presented) The crimp measuring system of claim 24, wherein the

4

Honeywell Docket No. 30-5081 DIV - 4580
Bingham Docket No.: 7270015001-3227000

processor and the stored program divides non-interlaced image into a series of horizontal bands and for establishing an intensity profile of each of the bands by averaging pixel intensity of sequential horizontal lines within each of the bands.

Claim 39:   (Previously Presented) The crimp measuring system of claim 24, wherein the processor and the stored program processes the data as minima and maxima intensity profiles wherein a maxima is labeled as a crimp peak if difference in intensity between the maxima and its two neighboring minima exceeds an operator-specified intensity threshold value.

Claim 40:   (Previously Presented) The crimp measuring system of claim 24, wherein the processor and the stored program calculates distances of neighboring crimp peaks, compares the distances with operator-specified thresholds, groups the crimp peaks into one of a micro, normal or large categories, and tabulates overall crimp statistics for a non-interlaced image.